

DRAWING AMENDMENTS:

The attached thirteen (13) sheets of drawings replace the originally submitted thirteen sheets of drawings. On each sheet, the Figure Number has been added or replaced to be clear and be in a font larger than the numbers used for the reference characters.

Attachment: Replacement Sheets 1/13-13/13

REMARKS

Reconsideration of this application is respectfully requested.

Claims 1, 8-15, 19, 20, 22-68 and 73-80 remain in the application. Claims 1, 15, 29, 43, 57, 61, 65 and 75-76 have been amended. New claims 81 and 82 have been added. Support for the claim amendments can be found on at least pages 29-30 in section 2.5.3 entitled "Flow Operations" and section 2.5.4 entitled "Relabeling"; on at least pages 31-32 in section 2.5.5.3 entitled "preflow-push method: iterative operation"; and pages 33-37 of the present application. Therefore, it is respectfully submitted no new matter has been added to the present application by these claim amendments.

Claims 75 and 76 were objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim, as set forth on page 3 of the Office Action dated February 9, 2009.

Claims 75 and 76 have been amended in accordance with the Examiner's helpful suggestion. Claim 75 has been amended to depend from claim 29 and claim 76 has been amended to depend from claim 43. It is respectfully submitted the claim objections to claims 75 and 76 be withdrawn.

The drawings were objected to because "Drawing sheets 6/13 through 12/13 do not have Figure Numbers. Further Figures 10-16 seem to be missing".

Replacement drawing sheets have been submitted to replaced the originally submitted thirteen (13) drawing sheets. It appears that during processing at WIPO, several of the figures were incorrectly copied and portions were covered. Replacement sheets 1/13 through 12/13 are identical copies of the same sheets submitted in the related provisional patent application, namely, U.S. Provisional Patent Application No. 60/370,608.

The Figure Number on all sheets have been replaced to be clear and be in a font larger than the numbers used for the reference characters. Figure Numbers 10-16 have been added to sheets 6/13 through 12/13. The Figure Numbers on sheets 6/13 through 12/13 were mistakenly omitted processing at WIPO. The Figure Numbers added to sheets 6/13 through 12/13 are the same Figure Numbers used in the related provisional patent application, namely, U.S. Provisional Patent Application No. 60/370,608. Therefore, it is respectfully submitted no new matter has been added to the present application by these drawing amendments.

Claims 1, 8-15, 19, 20 and 22-56 were rejected under 35 USC 103(a) as being unpatentable over Ahuja et al., Network Flows, in view of Bertsekas et al., "Finding Maximal Benefit/Maximal Cardinality Assignments", as set forth on pages 4-11 of the Office Action dated February 9, 2009. Claims 57-68 and 73-80 were rejected under 35 USC 103(a) as being unpatentable over Ahuja et al., Network Flows, in view of Bertsekas et al., "Finding Maximal Benefit/Maximal Cardinality Assignments" in further view of Kalagnanam, US Patent No. 6,044,361, as set forth on pages 11-15 of the Office Action.

Independent claims 1 has been amended to include new steps a) through e). Independent claims 15, 29, 43, 57, 61 and 65 have been amended, in one form or another, to include similar limitations to that of claim 1. It is respectfully submitted none of the references cited in the Office Action suggest a method containing the new steps a) to e).

Ahuja et al. deals with a matching problem such as they are, for example, described on page 9 of Ahuja. One example is matching pilots to airplanes. While in such a matching problem each pilot is to be assigned to an airplane, the optimization problem solved by the present invention deals with a problem of the kind where how many percent

of the first pilot shall be assigned to the first airplane, how many percent of the same pilot shall be assigned to a second airplane, how many percent of that same pilot should be assigned to a third airplane, and so on. In other words, the present invention does not solve a matching problem but rather a distribution problem which gives the optimized order of assignment of supplies to demanders in correspondence to the result of the optimized network flow distribution.

Like Ahuja et al., Bertsekas et al. "Finding Maximal Benefit/Maximal Cardinality Assignments" describe solving a matching problem, namely matching persons and objects on a one to one basis (see chapter 1 "Introduction", first sentence). Again, this differs from the problem underlying the present invention, namely, to distribute a number of supplies such to a number of demanders that a first percentage of a first supply is assigned to a first demander, a second percentage of the first supply is assigned to a second demander,, a first percentage of a second supply is assigned to the first demander, a second percentage of the second supply is assigned to the second demander and so on.

Hence, not only do Ahuja and Bertsekas not disclose the newly introduced features a) to e) but the methods described in Ahuja and Bertsekas do not even solve the same kind of problem as the problem solved by the claims of the present application.

Furthermore, Kalagnanam et al. (US 6,044,361) deals with maximum flow algorithms in a practical problem, namely, an inventory matching problem which has some similarities to the application of the present invention. In particular, Kalagnanam et al. describe satisfying orders from an order book using left over stock from the inventory (column 1, lines 21 to 27). However, the method described by Kalagnanam et al. uses

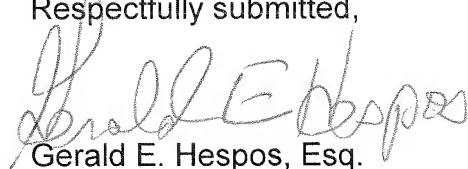
iterating solutions outgoing from an initial solution to arrive at a near optimal solution (see claim 1).

In contrast to the method described by Kalagnanam et al., no iteration of solutions is performed in the method of the present invention. Instead, an optimized network flow is determined by using special rules that apply to a repeated discharge operation for active demander vertices and to a repeated discharge operation for active supply vertices. These special rules (features a) to e) in amended claim 1) allow for deriving the option order of assignment from the flow values (see Section 2.6 of the present application). In particular, the rule defined in step d) of the claimed invention, which restricts the flow, is an important condition to determine the optimal order assignment from the network flow.

Therefore, since none of the cited references disclose the features a) to e), it is respectfully submitted amended claim 1, along with its dependent claims, is patentably distinct and not rendered obvious by Ahuja et al., Bertsekas et al. and Kalagnanam et al. alone or in any combination and is in condition for allowance. Additionally, for at least the reasons put forth above, it is respectfully submitted independent claims 15, 29, 43, 57, 61 and 65, along with their dependent claims, are patentable distinct and not rendered obvious by Ahuja et al., Bertsekas et al. and Kalagnanam et al. alone or in any combination and is in condition for allowance.

In view of the preceding amendments and remarks, it is submitted that the claims remaining in the application are directed to patentable subject matter and allowance is solicited. The Examiner is urged to contact applicants' attorney at the number below to expedite the prosecution of this application.

Respectfully submitted,



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